

**FACTS, Inc.**

PROCESS CONTROL SYSTEMS

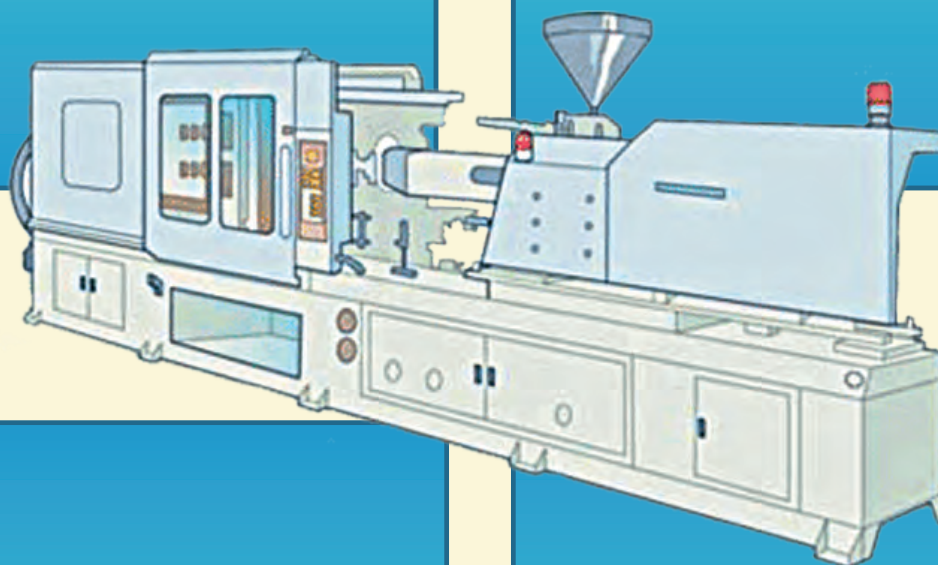
Measure .. Control .. Inform

TOTAL MACHINE CONTROL  
B&R INJECTION MOLDING  
CONTROL SYSTEM UPGRADES

# Replace Your Obsolete Injection Molding Machine Control and Receive

Support When  
You Need It

a Friendly User  
Interface



Reduced Risk of  
Downtime

Spare Parts  
Availability

**FACTS, Inc.**  
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## TMC 9001 for Injection

The **FACTS** Total Machine Control, (TMC) family of Injection Molding Control Systems provides complete control of the injection molding process including the recovery, clamp and ejection stages. The TMC family offers integrated control solutions using technology from key suppliers including Barber Colman, B&R Automation and Rockwell Automation.

The TMC 9001 is based upon B&R Automation's technology solutions for the plastics industry. The B&R platform is based upon a real time operating system and tightly integrates control, user interface and I/O functions in a flexible and compact package.

## DELIVERABLES

Machine.Logic  
Operator Training  
On-Site Startup  
System Architecture  
Old System Removal  
Drawings  
Recipes  
Alarms  
Diagnostics  
Installation  
Screen Programming  
System Drawings  
**Service**  
Control Components  
Logic Programming

### Operator Interface

- ▶ 10.4" TFT Display
- ▶ 800 x 600 viewing resolution
- ▶ Touchscreen interface
- ▶ 86 Key Keyboard (Number pad and Machine Function Keys)
- ▶ Ethernet Communications 10/100
- ▶ Compact Flash slot, Type 1 for data storage
- ▶ 1x RS-232, 2x USB



### Control System

The TMC 9001 base control solution is configured to support up to:

- ▶ (60) discrete inputs
- ▶ (48) discrete outputs for machine control
- ▶ (8) analog inputs for clamp, ejector and injection unit position sensing and injection and clamp pressure input
- ▶ (12) analog outputs for injection pressure, injection flow and system pressure control
- ▶ (1) digital input for screw speed
- ▶ (8) zones of closed loop temperature control for barrel, adapter and nozzle heat with J type thermocouple inputs
- ▶ Expandable as required for specific applications

### Additional Services

- ▶ Linear position transducers
- ▶ Tachometer/encoder feedback for screw RPM feedback
- ▶ Hydraulic valve & power package upgrades
- ▶ Integrated mold heat and hot runner control

